



**THE COUNTDOWN**  
**COMPANY**  
ENGINEERING OFFICE

# THE COUNTDOWN COMPANY

ENGINEERING OFFICE

THE PROJECT ACCELERATOR FOR YOUR ENGINEERING



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## ● HISTORY

The adventure started three year ago at university with the creation of the EPFL Rocket Team. Our goal was to take part to the Spaceport America Cup, an international rocketry competition requiring to bring a 4kg payload to an altitude of 3km. We received the Jim Furfaro Award for Technical Excellence, rewarding the best engineering out of 120 teams. As we have now reached the end of our academic program, developing a company is the only way to keep this team's competitive spirit alive. Therefore, seven of us have decided to launch a new professional adventure with the creation of The Countdown Company.

## ● OUR VISION

The vision of the company is to develop the technologies for a sustainable access to space. Developing space systems requires a pluridisciplinary team with good knowledge of system engineering, of mechanical design and analysis for tough vibration, thermal and radiation environment, and of composite and metal manufacturing.

All these skills can also be applied to aeronautics, automobile, robotics and other similar technical fields.

## ● OUR VALUES



### Technical excellence

functional, simple and optimized solutions



### Innovation

young minds close to the latest materials and technical processes



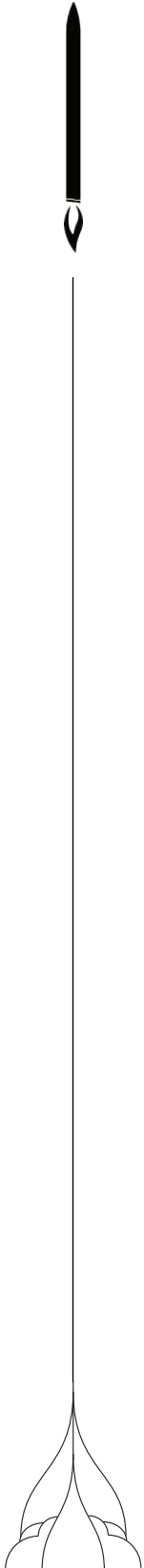
### Responsiveness

competitive mindset, ready to answer new challenges with tight deadlines



### Flexibility & Agility

tight-knit pluridisciplinary team solving problems together for more than three years



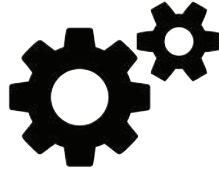
## COMBINE OUR SERVICES FOR YOUR NEED

Whether you need a complete design iteration, the manufacturing of a prototype, a testing campaign, some analysis of a part, a feasibility study or any engineering power in a tight project, we would gladly help you by providing fast, agile and tailored solutions. Pick the skills you need from our expertise fields:



### SPACE TECHNOLOGIES

- Spacecraft design
- Mission design
- System engineering
- Suborbital simulations
- Flight mechanics
- Hybrid motor design
- Airbrakes design
- Recovery
- ADCS (attitude control)



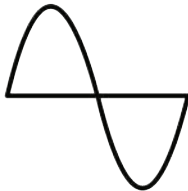
### MECHANICAL ENGINEERING

- Complex system design
- CAD/CAM software
- MEMS design
- Opto-mechanics
- Electro-mechanical systems
- Precision mechanisms
- Linear & rotation transmission
- Multi-body system
- Mobile robots



### ANALYSIS AND SIMULATION

- Custom flight simulator
- Fluid mechanics
- Compressible mechanics
- Continuum mechanics
- Thermodynamics and cycles
- FEM softwares
- Problem modelling
- Data analysis
- Vibrations and modal analysis



### ELECTRONICS & SIGNALS

- Microcontroller
- Embedded systems
- Closed Loop control
- Logic systems
- Sensors
- Python, C, C++, VHDL, Java
- Image processing
- Automation
- Robotics



### SYSTEM ENGINEERING

- Requirements definition
- Contingencies and margins
- Validation plan definition
- System integration
- Breadboard, engineering model
- Test bench
- Integrated embedded system
- Robotic system
- Traction / Compression testing





### MANUFACTURING

- Milling
- Turning
- FDM additive manufacturing
- Welding (alu, stainless, CrMo)
- Mechanical adjustment
- Composite parts
- Assembly and integration
- Plate slitting
- Hydraulic press

**CONTACT US FOR A FAST QUOTE OF YOUR TAILORED SOLUTION**

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